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ECONOMIC EVALUATION OF ORAL THERAPIES FOR PULMONARY ARTERIAL HYPERTENSION

Harnett J¹, Van Engen A², Schoeman O²

¹Pfizer Inc, New York, NY, USA, ²Quintiles Consulting, Hoofddorp, The Netherlands

OBJECTIVES: The objective of this study was to create an economic model for evaluation of two oral therapies for pulmonary arterial hypertension (PAH) in the US. **METHODS:** Using a Markov model, expected outcomes and costs for PAH patients treated with either RevatioTM (sildenafil citrate) or TracleerTM (bosentan) were evaluated over a 1 year period. The health states in the model were based on the World Health Organization functional class I to IV and death. Transition probabilities and utilities were based on the results of the SUPER-1 clinical trial for RevatioTM. Treatment effect was estimated using relative risk of improvement in 6-minute walk tests for sildenafil and bosentan based on pivotal clinical trials. Costs were derived from average wholesaler price and Medicare reimbursement data. Sensitivity analyses were performed in order to test the strength of the conclusions of the analysis over a range of structural assumptions, probability estimates and value judgments. **RESULTS:** Sildenafil therapy was associated with significant cost savings (\$3.0 million per 100 patients per year) in comparison with bosentan. Life-year and QALY differences between sildenafil and bosentan were found to be negligible. **CONCLUSIONS:** The results show that sildenafil is more cost-effective than bosentan mainly due to the large difference in medication costs (in favor of sildenafil).

PCV19

ONE-YEAR COSTS FOR ACUTE CORONARY SYNDROME IN PATIENTS WITH AND WITHOUT REVASCLARIZATION DURING THE INITIAL HOSPITALIZATION

Sidney S¹, Sorel M¹, Quesenberry Jr CP¹, McCollam PL²

¹Kaiser Permanente Medical Care Program, Oakland, CA, USA, ²Eli Lilly and Company, Indianapolis, IN, USA

OBJECTIVES: Revascularization procedures are often carried out during hospitalizations for acute coronary syndrome (ACS). Our objectives are to estimate the costs during the first year of follow-up after initial (index) hospitalization for ACS stratified by whether or not revascularization took place at this hospitalization. **METHODS:** This consisted of Kaiser Permanente Medical Care Program Northern California patients age >40 years, and hospitalized with ACS during January 1, 1999 to December 31, 2000, and without ACS hospitalization during 6 months prior. Costs expressed are those incurred by the health plan. **RESULTS:** A total of 14,852 patients met inclusion criteria. Mean age was 67.2 years; 63.9% were male. The distribution of revascularization during index hospitalization was 2457 CABG (16.5%), 3257 PCI (21.9%), and 9138 no procedure (61.5%). Index total hospitalization costs were: CABG (\$34,307 + 26,515), PCI (\$14,863 + \$11,665), no procedure (\$11,059 + 16,497). One-year follow-up costs were highest for no procedure [\$17,669 + 32,510 (\$7,781 median)], intermediate for CABG [\$12,763 + 22,676 (\$5,670)] lowest for PCI [\$12,297 + 22,197 (\$4,336)]. Percent of total costs by type of resource used (clinic, hospital, pharmacy, respectively) were for CABG 36.5%, 45.3%, 9.2%, for PCI 30.1%, 57.5%, 10.4%, and for no procedure 24.3%, 62.6%, and 7.5%. As expected, follow-up costs were considerably impacted by whether or not revascularization was performed. One-year revascularization rates were 15.0% for the PCI group, 14.3% for no procedure, and only 2.2% for CABG. One-year mean follow-up costs with and without revascularization were: CABG (\$28,867 with and \$12,401 without revascularization), PCI (\$34,673 with and \$8,344 without revascularization), no procedure (\$39,476 with and \$14,020 without revascularization). **CONCLUSIONS:** While hospitalization for ACS with revascularization procedure was associated with higher costs than hospitalization with no procedure, one-year follow-up costs were higher in the no procedure group, largely due to higher hospitalization costs.

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PCV20

MARKOV-BASED ECONOMIC ANALYSIS OF NESIRITIDE IN ACUTE DECOMPENSATED HEART FAILURE

Blackburn JC¹, DiDomenico R¹, Hilleman DE², Schumock GT¹, Walton SM¹

¹University of Illinois at Chicago, Chicago, IL, USA, ²Creighton University, Omaha, NE, USA

OBJECTIVES: Acute decompensated heart failure (ADHF) leads to frequent hospital admissions and mortality; and represents a significant economic burden to patients, providers, and society. Nesiritide may reduce downstream resource utilization and improve patient outcomes when used early in the treatment. **METHODS:** A Monte Carlo simulation for a hypothetical cohort of 10,000 patients, based on a Markov model, was used to estimate from the hospital perspective the expected values of outcomes of interest. The model incorporates complications of therapy (atrial fibrillation and renal failure), location of inpatient care (intensive care unit, inpatient ward, or emergency department only), and hospital readmissions. Three stages of disease were included within each cycle of the model: well (survive ADHF hospitalization without suffering ADHF readmission), sick (survive ADHF hospitalization but suffer ADHF readmission), and death. Transition probabilities were calculated from prior published clinical trials. Hospital costs were obtained from a pilot study conducted at Creighton University Medical Center. The model was run over six cycles of one month each. **RESULTS:** Based on the results of the Monte Carlo simulation, nesiritide was dominant over standard therapy because it both reduces costs and leads to a greater life expectancy. The average hospital costs per patient treated with nesiritide and standard therapy were \$9856 (SD ± \$4676) and \$10,953 (SD ± \$5573) respectively. Cost differences were mostly attributable to a lower probability of readmission for patients receiving nesiritide. The percentage of patients who required 2 or more readmissions in the nesiritide and in the standard therapy group were 25% and 31% respectively. Survival at six months also favored nesiritide. **CONCLUSIONS:** Our model predicts that nesiritide, given within 24 hours of hospitalization for ADHF, would lead to a reduction in overall costs and the number of total readmissions, and may decrease mortality over 6 months compared to standard therapy.

PCV21

COSTS OF DIAGNOSTIC PROCEDURES OF INTERVENTIONIST CARDIOLOGY IN THE SOCIAL SECURITY MEXICAN INSTITUTE (IMSS)

Mould J¹, Salinas-Escudero G¹, Martinez-Valverde S², Garduño-Espinosa J¹, Duran-Arenas L¹

¹Social Security Mexican Institute, Mexico City, Mexico, ²Social Security Research Unit, Mexico City, Mexico

OBJECTIVES: An efficient assignation of resources in the service of hemodynamics requires the knowledge of costs of possible diagnostic procedure's combinations. Currently, in Mexico the costs for these procedures are very general and incomplete. The objective of this study was to estimate the direct and indirect medical cost of different interventionist cardiology diagnostic procedures

that are practiced in the hemodinamy service in the Cardiology Hospital "Centro Nacional Siglo XXI" in Mexico City. **METHODS:** Identification of resource use at the hemodinamy service was realized through expert opinion and the revision of hospital records during the first two months of 2005. Unitary costs were obtained from the Accounting Department of the hospital. The intervention's cost estimation was realized with the technique "case mix" and the perspective was that of the Social Security Mexican Institute (IMSS). The direct medical costs included: material of high specialty, medical instruments, drugs, cinefluorscopy and human resources. Indirect medical costs included: equipment, depreciation, laundry, electricity, telephone, water, etc. Within the estimations of the interventions it was included the use of counterpulsation balloon, cutting balloon, glucoproteins (tirofiban or abciximab) and trombectomy. **RESULTS:** Diagnostic catheterism was estimated in US\$328.7. The cost of the other interventions shifted in function of the type of the stent used (conventional or medical). Intervention of one vessel with conventional stent resulted in US\$1182.5; and with medical stent this raised to US\$3438.5. Also, intervention costs of one vessel trombectomy + counterpulsation balloon + glucoproteins inhibitors resulted in US\$7508.1. An intervention with two left vessel was calculated in US\$10,910.2 and with two left vessel and one right vessel, the cost increased to US\$13,706.7. **CONCLUSIONS:** Our study results showed high direct medical costs heterogeneity on diagnostic procedures in a Mexican hemodinamy service. These results are useful for cost containment policies and for further health economics researches in Mexico.

PCV22

INPATIENT MANAGEMENT OF TRANSMURAL AND SUBENDOCARDIAL ACUTE MYOCARDIAL INFARCTION (AMI): DIFFERENCES IN RESOURCE USE AND COST

O'Brien JA, Duran PA, Caro JJ

Caro Research Institute, Concord, MA, USA

OBJECTIVES: To identify number of transmural and subendocardial AMI cases, as well as related inpatient resource use and cost by type of AMI. **METHODS:** Reported all-payer 2003 hospital data from six states (CA, FL, MD, MA, TX, WA) were analyzed. Transmural (410.00–410.60, 410.01–410.61) and subendocardial (410.70, 410.71) AMI cases were identified using ICD-9 principal diagnosis codes. AMI cases with other (410.80, 410.81) or unspecified (410.90, 410.91) codes were identified, but excluded. Demographics, length of stay, admission source, AMI location, secondary diagnosis and procedure codes, DRG assignment, disposition status and reported charges were analyzed. Charges (accommodations, ancillary services) adjusted by a 0.65 cost-to-charge ratio, and for medical inflation and geographic factors to reflect national values are reported as costs (2005US\$). **RESULTS:** Of the 168,831 AMI cases identified, more than half (56%) were coded as subendocardial ($n = 94,625$). Transmural AMI was coded for 35% ($n = 59,123$); 9% were coded as other or unspecified AMI. The subendocardial AMI group had more females (47% vs. 40%), was older (mean age: 72, median: 75 years vs. mean: 68, median: 70 years), and had a slightly longer LOS (mean: 5.8, median: 4 days vs. mean: 5.5, median: 3.7 days), on average, than those with a transmural AMI. Significantly ($p < 0.01$) fewer patients with subendocardial AMI had ICU days (50% vs. 75%), and percutaneous coronary (47% vs. 27%) and stent (8% vs. 6%) procedures. Coronary-bypass surgery rate was the same (10%) for both groups. Inpatient case fatality rate was significantly ($p < 0.01$) higher for transmural group (10% vs. 7%). The average cost per stay for transmural AMI was \$34,012 (median: \$23,880); \$28,483

(median: \$18,664) for subendocardial AMI. **CONCLUSIONS:** Substantially fewer cases of acute transmural infarct were reported in this dataset. Yet, when reported, they were more lethal, resource intensive and costly than a subendocardial AMI.

PCV23

AN ANALYSIS OF RESOURCE USE IN THE TREATMENT OF DEEP VEIN THROMBOSIS (DVT) IN BRAZIL

Fonseca M, Araujo G

AxiaBio Consulting, São Paulo, Brazil

OBJECTIVE: DVT is an important problem in clinical practice. This study aims to estimate the costs of treatment of DVT from the perspective of the private medicine payers in Brazil. **METHODS:** To determine actual costs of patient management the resource use collected during comparative clinical trials often is insufficient. Although large data bases can be used to estimate patient health care resource consumption they are not always available. One reasonable data source is soliciting expert opinion from clinicians. Two Delphi panels one for vascular surgeons, and another for intensivists were performed in order to delineate practice patterns and to obtain resource utilization for routine treatment and monitoring, adverse event management and other clinical parameters representative of community physicians managing of DVT. Responses were obtained from seven vascular surgeons and five intensivists from various centers in Brazil with experience of treating DVT. Percentage likelihood of complications due to thromboprophylaxis was determined based upon physician consensus. A decision analytic model was designed to project the costs associated with venous thromboembolism. **RESULTS:** The detected mean cost (in Brazilian Reais) of DVT was R\$9895.23. The detected cost of diagnosing DVT was R\$74.01, the treatment cost without considering its complications was R\$5208.76 and the complications cost, balanced by incidence was R\$4612.46. The cost to avoid a DVT by the use of a thromboprophylaxis was R\$177.68. **CONCLUSIONS:** DVT costs are only a part of the costs incurred in treating high risk surgical or clinical patients. These results clearly show the substantial costs that a DVT may represent in the treatment of these patients that may be prevented by the use of thromboprophylaxis.

CARDIOVASCULAR DISEASE—Health Care Use & Policy

PCV24

AFRICAN AMERICANS' RESPONSES TO DIRECT-TO-CONSUMER ADVERTISING (DTCA) OF LIPITOR®

Yang Y¹, Gourley D², Gourley G², Faris R³, Womeodu R², Likens C²

¹The University of Mississippi, University, MS, USA, ²The University of Tennessee, Memphis, TN, USA, ³Methodist Hospital, Memphis, TN, USA

OBJECTIVES: This study was designed to investigate how African American patients respond to DTCA of prescription drug Lipitor® and the relationships between potential influencing variables and patients' responses. **METHODS:** Face-to-face interview was employed for this study, and a convenience sample consisting of 160 African American patients were interviewed at a general medicine clinic in a public hospital. Short-Test of Functional Health Literacy in Adults (S-TOFHLA) was administered to all study participants. Then the participants were asked to view a TV advertisement of Lipitor®, followed by DTCA-related interviews. Patients' demographic and socioeconomic information was also collected during the interviews. Bivariate analyses and logistic regressions were used to assess the relationships between potential influencing variables and patients' responses